MEETING SUMMARY
DECEMBER 10, 2008
OCEAN ENERGY TASK FORCE

I. Introductory Matters

- Introductions. Chairs Beth Nagusky and Don Perkins welcomed the Task Force and attending public. Task Force members introduced themselves and offered brief summaries of their interests and affiliations.

- Overview of Ocean Jurisdictional Boundaries –*Todd Burrowes (Maine State Planning Office)*

  Todd Burrowes presented an overview on the primary jurisdictional boundaries in the Gulf of Maine. Mr. Burrowes noted that a municipality's legislative charter must be researched to verify the extent and location of its boundaries in marine waters. A map depicting the jurisdictional boundaries discussed and a related map supplement is available online at the project website: www.maine.gov/spo/specialprojects/OETF/index.htm.

  - Mr. Perkins noted that an understanding of the regulatory framework in both state and federal waters and its implications regarding siting of energy facilities is central to the work of the Task Force and will be scrutinized in future Task Force and related subcommittee meetings. In response to a question from the public about fishermen's rights, Mr. Perkins observed that a variety of use related issues, including commercial shipping and recreational activities, in addition to fishing, must be considered in making decisions regarding energy facility siting. Mr. Perkins suggested that the Task Force's charge involves identifying places in which energy development may be unsuitable.

II. Opening Remarks - The Honorable John E. Baldacci

Citing Maine's tremendous natural resources, Governor Baldacci emphasized that the State has an opportunity to be New England's renewable energy development leader and expressed his appreciation for the Task Force's contribution to development of recommendations to help seize that opportunity. Governor Baldacci expressed particular appreciation for Governor King's willingness to serve on the Task Force. The Governor cautioned that, while the recent price decline in oil has given many a false sense of security, Maine must take decisive steps to secure the benefits of more stable energy supply and prices and transition from non-renewable, largely imported energy sources to renewable, indigenous ones. Governor Baldacci expressed his interest in offering a significant energy package in the upcoming legislative session and his interest in recommendations that the Task Force develops.

III. Presentations

- The State of Maine's Electric Energy Picture: Demand, Supply, Transmission, and Distribution Infrastructure –*John Kerry (Director, Office of Energy Independence and Security)*

  In his presentation, Mr. Kerry highlighted the following points:

  - Natural gas and oil are Maine's primary sources. Biomass, much of which comes from cogeneration, represents 22% of the state's energy.

  - OEIS is currently working with utilities and private developers to get clearer more standardized data regarding energy supplies and usage.

  - OEIS has developed a draft state comprehensive energy plan and OEIS intends to consider the Task Force's recommendations prior to finalizing the plan for submission to the Governor.

  - Mr. Kerry outlined a chart plotting the potential for Maine's energy independence, documenting the progression from a fossil fuel culture (duration being roughly 2005 to 2015) to a conservation culture (duration being 2015 – 2025) to a sustainable culture (duration being from 2025 and beyond).

  - Mr. Kerry also defined the national and regional energy consumption and production averages by fuel type and by commercial, residential, or industrial consumption.

  - Finally, Mr. Kerry charted a course for creating a sustainable energy future by highlighting five key steps:

    - Strengthen energy Efficiency and conservation
    - Foster Renewable Energy
    - Support Renewable Biofuel
    - Enhance Co-generation
    - Improve Transportation and energy transmission infrastructure

  Mr. Kerry's presentation is available at:
  www.maine.gov/spo/specialprojects/OETF/Documents/Kerry_MainesElectricity.pdf

- Maine's Electric Energy Picture: Transmission & Distribution System, Regulatory Issues related to Ocean Renewable Energy –*Sharon Reishus (Chair, Maine Public Utilities Commission)*

  In her presentation, PUC chair Sharon Reishus' highlighted the following:

  - The Maine Public Utilities Commission primarily manages T and D Utilities (Transmission Distribution Utilities) which, due to deregulation, no longer own generation facilities which are privately owned and thus not directly paid for by rate payers.

- Utilities formerly managed and implemented energy conservation programs that now are run by PUC. Chair Reishus suggested that this may be a topic of discussion in the upcoming legislative session.

- A recent law change and related PUC rule enables the Commission to enter into long term contracts for purchase of electricity. Chair Reishus explained that the PUC has a pending Request for Proposals for long term contracts and that under the new law the Commission may consider pertinent environmental effects as well as price in entering into such contracts on behalf of consumers. While noting PUC has limited experience as yet working with this new law, Chair Reishus suggested that the change has potential to facilitate development of renewable ocean energy development which may be better able to secure favorable financing terms through demonstration of long-term contracts for their generation.

- Maine is now part of ISO New England (ISO-NE) regional energy grid. Maine's continued participation in the ISO is now under consideration. Chair Reishus explained that the costs of some energy development infrastructure, such as certain transmission lines, deemed to serve the region as a whole is shared among rate payers throughout the ISO-NE region whereas others may be borne by rate payers in the state in which the infrastructure is located or, in the case of generating facilities, the developer. Chair Reishus noted that each of the New England states is seeking a dramatic increase in their renewable energy portfolio to address goals of the Regional Greenhouse Gas Initiative and related objectives. Ms. Reishus noted that if the federal government nationalizes elements of the country's electric transmission system, as some have suggested, Maine ratepayers may need to bear some portion of development costs well outside our region.

  - In response to a question regarding the two most important things the OETF should focus on in terms of maximizing the ocean energy impact, Chair Reishus cited issues regarding payment for new infrastructure that will be needed and regarding integration of significant additional wind and other renewable energy resources into the current system so that it reaches the marketplace. Chair Reishus noted that both these categories of issues involve multiple and complex considerations.

  - In response to a question, Mrs. Nagusky explained that Maine has a renewable energy portfolio standard (RPS) of 30%, which was amended recently to require utilities to obtain an additional 1% each year of *new* renewable energy generation, including potentially wind and tidal power (but not fossil fuel or solid waste-generated power). http://www.mainelegislature.org/legis/statutes/35-A/title35-Asec3210.html

- New and Future Electric Technologies to Displace Fossil Fuels in Heat and Transport Sectors –*George Hart (Ocean Energy Institute)*

  Emphasizing that new and emerging technologies offer tremendous potential for use of renewable energy to address a significant portion of Maine's home heating and transportation, as well as traditional electric power needs, Mr. Hart's presentation focused on five questions:

- ❖ Is the Goal to simply "go green" or lead the way into the New World of Energy?
- ❖ Does it make sense to worry about an energy crisis or look for big opportunities?
- ❖ What source(s) of energy should be used (onshore/offshore wind, nuclear, tidal…)?
- ❖ Should Canadian sources be considered?
- ❖ With depressed energy prices and financial chaos, what next steps are wise/affordable?

➢ Mr. Hart's presentation, using detailed information including that regarding the comparative efficiencies of fossil fuel and electric power in addressing heating, transportation and other needs, focused on three major energy policy directions that Maine should consider taking: moving from the current oil-centric to an electricity-centric energy system; limiting use of oil to that which it is best suited (e.g., lubrication) rather than as an all purpose material and energy resource; and use of distributed energy generation as opposed to reliance centralized extraction to address energy needs.

➢ Mr. Hart highlighted a four fold rationale for wind energy development which included energy security (price and supply), environmental factors, economic growth, and job creation.

Mr. Hart's presentation is available at:
www.maine.gov/spo/specialprojects/OETF/Documents/Hart_NewTechnologies.pdf

- The Regional Transmission Grid –*John Norden (Manager, Renewable Resource Integration, ISO New England)*

  Participating in the meeting by telephone, Mr. Norden discussed wind energy potential in New England and the regional grid's integration challenges and opportunities, including load following requirements (opposing ramps of load and wind, ramp rates, and impacts to other resources); automatic generation control requirements; and reserve requirements and contingency coverage; requirements for loss of wind. Mr. Norden said that ISO is actively engaged with developers of current and future projects to ensure the successful integration of wind power and other renewable energy assets into the regional grid.

  Mr. Norden's presentation is available at:
  www.maine.gov/spo/specialprojects/OETF/Documents/Norden_TransmissionGrid.pdf

- Potential Ocean Energy Contributions to Meet State and Regional Energy Demand

  ➢ Offshore Wind Power –*Habib Dagher (Bath Iron Works Professor and Director of AEWC, University of Maine*)

  – Professor Dagher began by reviewing energy budgets for the average Maine family, highlighting in particular, a forecast of energy costs per household to increase by 20% by the year 2018, based on energy costs from July 2008.

- Heating crisis solutions were examined in terms of short to long range solutions:
  - Short Term: Energy Efficiency
  - Medium Term: Bridge Fuels such as natural gas, pellets, and wood
  - Long Term: Offshore and Land-Based Wind

- Professor Dagher also emphasized alternative methods of both heating and transportation including geothermal heat pumps, cold air heat pumps, and plug-in and electric hybrid vehicles.

- An "Energy Mosaic" for Maine was discussed by looking at utility scale energy opportunities. In-stream tidal, wave energy, and nuclear can be considered to either not have enough potential to meet Maine's growing needs (tidal and wave) or be too costly and time prohibitive (nuclear). Offshore wind energy currently has the most potential with a power output equal to that of almost 40 nuclear power plants (~149 GW).

- Different states endeavors including Delaware, Rhode Island, and the Great Lakes States were discussed as well as foreign wind energy developments in Europe and more specifically in the United Kingdom.

- The University of Maine's commitment to research for a Wind Siting GIS Decision Tool includes wind resource mapping with data from a number of sources, bathymetry in the Gulf of Maine, geophysical conditions, exclusion zones, multi-use regions, environmental data layers, and transmission/grid connectivity.

- Professor Dagher outlined a path for Maine to follow in order to achieve energy independence that is cleaner by nature. His proposal starts in 2008-2010 with a siting study, policy work, permitting, and transmission issues coordination, which leads to 2010 with the potential for a State issued RFP. By 2012, the hope would be for a shallow to medium depth commercial project. During the period between 2009 and 2016, deep water wind research and development would take place with a goal of deep water commercial projects being built by 2017.

Professor Dagher's Presentation is available at:
www.maine.gov/spo/specialprojects/OETF/Documents/Dagher%2012%2017%2008.pdf

➢ Tidal and Wave Power –*George Hagerman (Oceanographer, EPRI Ocean Energy Studies; Consultant, Ocean Energy Institute; Research Director, Virginia Coastal Energy Research Consortium)*

- Dr. Hagerman reviewed the results of a 2005-2006 EPRI site survey of potential tidal power development (tidal in-stream energy conservation or TISEC) sites that indicated Maine has a total of about 250 MW capacity for tidal power. As a result of this statistic, Dr. Hagerman suggested that tidal power projects may be expected to benefit primarily the host community and its energy needs as opposed to contribute a substantial amount of power to the grid.

- Referencing related research in Virginia, Dr. Hagerman also noted the potential for biogas generated from marine algae to contribute to Maine's renewable energy supplies.

Dr. Hagerman's presentation is available at:
www.maine.gov/spo/specialprojects/OETF/Documents/Hagerman_TidalWaveEnergy.pdf

➢ Offshore Oil and Gas –*Dr. Robert Marvinney (State Geologist, Maine Department of Conservation)*

- Dr. Marvinney provided an overview of oil and gas leasing and exploration, both past and present, in the Gulf of Maine. Dr. Marvinney indicated that Maine's coastal region (out to the state 3-mile limit) does not have geological conditions in which any oil or natural gas deposits of commercial significance may reasonably be expected to occur. Dr. Marvinney indicated that areas on Georges Bank may have such conditions and noted Congress recent non-renewal of the long-standing congressional leasing OCS leasing moratorium and currently leased areas, subject to a moratorium on development until 2012, on Canada's portion of Georges Bank.

- Dr. Marvinney emphasized that the Minerals Management Service (MMS) has estimated that the entire North Atlantic Planning Region, which is comprised of federal outer continental shelf areas (3 -200 miles offshore) from Maine to New Jersey contains only about 1.91 billion barrels of oil and 17.99 trillion cubic feet of natural gas, both of which are small compared to the annual national consumption rates. Reserves on George Bank or elsewhere in the Gulf of Maine, if any, would be some smaller fraction of this modest estimate. Dr. Marvinney also provided a basic, preliminary overview of the process for oil and gas exploration and development.

Dr. Marvinney's presentation is available at:
www.maine.gov/spo/specialprojects/OETF/Documents/Maine%20Offshore%20Oil%20and%20Gas%20Potential2.pdf

IV. Discussion of Task Force's Mission, Schedule and Process

Discussion: Proposed Work Plan and Schedule

Mr. Perkins facilitated a brief discussion among Task Force members regarding the group's direction and focus. In the discussion, Task Force members identified the following as integral to their mission:

- Removal of existing obstacles (regulatory and technological) and creation of incentives to foster development of the huge offshore wind resources in the Gulf of Maine in ways that benefit Maine families in addressing heating and transportation as well as traditional electric power needs;

- Assurance of a permitting framework informed by and adapting useful features of those in other states with experience considering offshore energy siting proposals, such as Rhode Island, Delaware, and Massachusetts;
- Due consideration of all ocean energy resources, including marine algae, with reasonable potential to address state energy needs and goals;
- Assurance that energy facility siting decisions are based on consideration of identified natural resources and use-related constraints, including those regarding commercial fishing and marine mammals and threatened and endangered species;
- Development of performance standards and advance identification of areas suitable for ocean energy development;
- Development of information to facilitate comparison and public understanding of the comparative fuel-cycle cost of wind power and fossil fuels; and
- Encouragement of measures to increase demand for wind and other renewable power energy sources.

Summing up, Mr. Perkins observed that the Task Force has about one year within which to develop recommendations. He suggested that, in terms of planning for and soliciting ocean energy development proposals, Maine is behind other states and underlying energy issues demand prompt action. He urged that the Task Force work to develop a suggested approach by April 2009 (when its interim report is due by under the executive order), including potential legislative recommendations for consideration this session, that would establish a vision for ocean energy development and lay the groundwork for issuance of a state request for proposals for an offshore wind energy development. Mr. Perkins suggested that subsequent phases of the Task Force's work focus on exploration and measures to address pertinent utility and environmental issues; preparation of a draft report; and subsequently public meetings along the coast to provide opportunity for public input.

As co-chairs, Ms. Nagusky and Mr. Perkins agreed to develop a list of suggested subcommittees and their composition for presentation to the Task Force at its January 2009 meeting that would reflect consideration of information presented and the Task Force's discussion. Mr. Perkins observed that, in keeping with the renewable energy developable potential, the group's primary focus should be on wind energy development while ensuring due consideration of tidal power opportunities as well as oil and gas issues.

- Next meeting: Ms. Nagusky indicated that the time and date of the next Task Force meeting will be determined via e-mail, using an online polling software. Mr. Perkins encouraged everyone to look at the third Wednesday of each month as a meeting option.